

## **Section V: Design Standards**

### **V.A. Basic Requirements**

The subdivider shall observe all design standards for land division as hereinafter provided. These standards shall be considered minimum standards and shall be varied from or waived only as provided in Section VII. The Town of Amherst Construction standards must be followed.

### **V.B. Relationship to Town Plans**

The design and layout of a proposed subdivision should be guided by the goals and objectives of the Final Report of the Select Committee on Goals for Amherst, and subsequent village plans.

### **V.C. Lot Size and Frontage**

All lots shall be of such size and dimensions as to at least meet the minimum requirements of the Zoning By-Law.

### **V.D. Protection of Natural Features**

All natural features such as waterbodies, flood prone areas, wetlands indicated on the Town Land Type Map, scenic points, and historic sites shall be preserved.

### **V.E. Access Through Another Municipality**

In case access to a subdivision crosses land in another municipality, the Board may require certification, from appropriate authorities, that such access is in accordance with the Master Plan and subdivision requirements of such municipality and that a legally adequate performance bond has been duly posted or that such access is adequately improved to handle prospective traffic.

### **V.F. Metric Equivalent Measure**

In light of possible future conversion to metric land measurement, widths of rights-of-way and easements, as well as radii of the same, shall be in feet that equate to even metric units. For instance, a right-of-way will be 59.054 feet wide, or 18 meters; a corner radius will be 29.527 feet, or 9 meters. Other use of metric measurement is encouraged.

### **V.G. Streets**

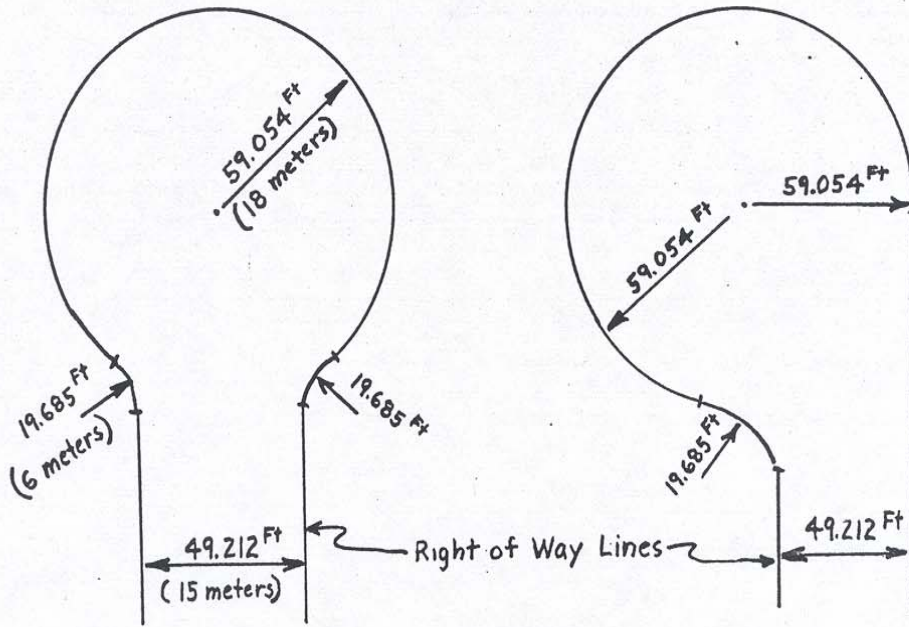
#### **1. Location and Alignment**

- a. All streets in the subdivision shall be designed so that, in the opinion of the Board, they will provide safe vehicular travel. Due consideration shall also be given by the subdivider to the attractiveness of the street layout in order to obtain the maximum livability and amenity of the subdivision.

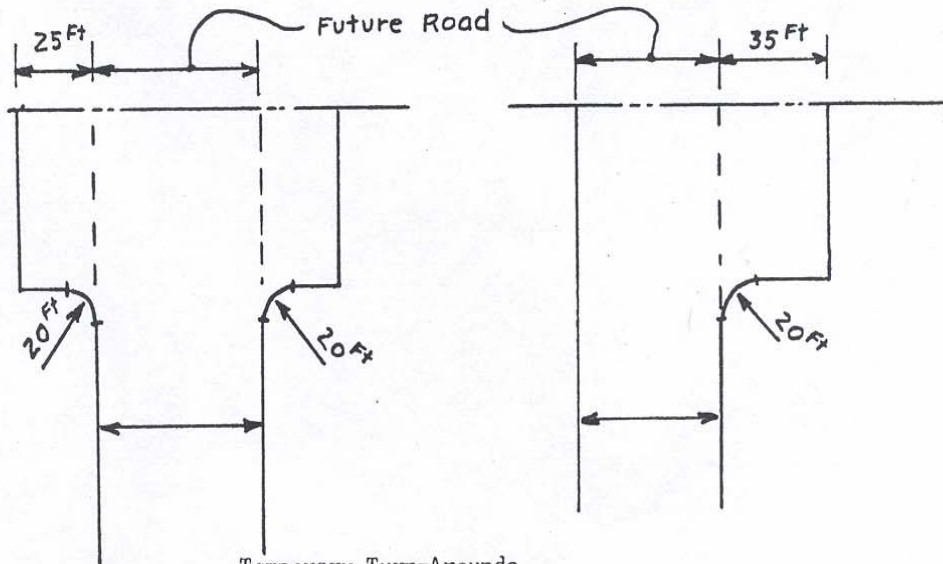
- b. Provision satisfactory to the Board shall be made for the proper projection of streets, or for access to adjoining property which is not yet subdivided.
  - c. Reserve strips prohibiting access to streets or adjoining property shall not be permitted.
  - d. Dead-end streets shall be permitted as Minor Streets only. Any dead-end street shall be provided with a circular turn-around at the end having an outside curb radius not less than fifty (50) feet. A dead-end street shall not be more than eight hundred (800) feet in length (See Section V.G.1.f.)
  - e. Property lines at intersections of Major and Secondary Streets shall be cut back to provide for curb radii of not less than 29.527 feet (9 meters). For Minor Streets a radius of not less than 19.685 feet (6 meters) is required.
  - f. See chart of Acceptable Turn-Arounds
  - g. Streets shall not be built within twenty-five (25) feet of any watercourse indicated on the Town Base Map, 1972, as revised, except where a stream crossing has been approved by the Planning Board. A street may cross land which is flood prone provided the lots served may be reached by another means of access which is not subject to periodic flooding.
2. See Chart of Right-of-Way and Street Design Standards
3. Street Jogs
- Streets entering opposite sides of another street shall be laid out either directly opposite each other or with a minimum offset of one hundred twenty-five (125) feet between their centerlines.
4. Intersections
- a. Rights-of-way shall be laid out so as to intersect as nearly as possible to right angles. No right-of-way shall intersect any other right angle at less than sixty (60) degrees. The vertical grade of the road shall not exceed a slope of four (4) percent for a minimum distance of one hundred (100) feet from the intersection.
  - b. Where the angle of the intersection varies more than ten (10) degrees from a right angle, the provisions of Section V.G.4.a. may be modified. Horizontal curves on the street centerline should not begin or end within one hundred (100) feet of the centerline of the intersecting street.

V.G.1.f.

Typical Acceptable Turn-Arounds



Permanent Cul-de-Sacs



Temporary Turn-Arounds

V.G.2.

Right-of-Way and Street Design Standards

<b>Street Classification</b>	<b>Minor</b>	<b>Secondary</b>	<b>Major</b>
1. Minimum Right-of-Way Width (feet)	39.370 (12 m) or 49.212 (15 m) (See note 1)	49.212 (15 m) or 59.054 (18 m) (See note 1)	72.178 (22 m)
2. Minimum Pavement Width (Traveled Way) in feet	20, 22, 24, 26 (See note 1)	24, 26, 28, 30 (See note 1)	40 (See note 2)
3. Minimum Radius of Curves (at Centerline of Traveled Way) in feet	246.06 (75 m)	344.48 (105 m)	590.544 (180 m)
4. Minimum Road Crown (in inches)	4	5	6
5. Minimum Vertical and Horizontal Sight Distance in feet (see note 3)	150	250	450
6. Minimum Percent Grade	1	1	1
7. Maximum Percent Grade	8 (See note 4)	8	5
8. Roadway Shoulder from Edge of Pavement to Bottom of Slope in Substantial Cut (feet)	4	8 (See note 6)	3 (See note 5)
9. Roadway Shoulder from Edge of Pavement to Top of Slope in a Substantial Fill (feet); with Guard Rail	5	9	4 (See note 5)

Notes:

1. To be determined by Board at the review of the Preliminary Plan.
2. This includes two 12' travel lanes and two 8' paved shoulders.
3. Clear site distance in travel lane at 3.5 feet above pavement.
4. Ten percent may be allowed for short distances.
5. From outside edge of paved shoulder.
6. Actual width to be determined by Board.

## V.H. Easements and Restrictions

### 1. Layout of Easements

Wherever possible, easements shall be continuous from lot to lot and street to street, shall be along rear or side lot lines, and shall create as few irregularities as possible.

Utility and drain easements (Use Form N) shall generally follow lot lines, and shall be not less than 19.685 feet (6 m) in width.

### 2. Conservation Restrictions

Watercourses shall be located within easements conforming substantially with the lines of their courses, whose width shall not be less than 19.685 feet and whose boundaries shall not be closer than five (5) feet horizontally from the annual high water line. No building shall be constructed and no paving shall be permitted within such easement except as permitted under the Zoning By-Law. Watercourses shall remain open except at street crossings.

### 3. Open Space

Before approval of a plan, the Board may also, in proper cases, require the plan to show a park or parks suitably located for playground and recreation purposes. The park or parks shall not be unreasonable in area in relation to the land being subdivided and to the prospective uses of such land. If this land is not conveyed to the Town of Amherst by sale or gift within three years after the approval of the Definitive Plan, then such land may be incorporated into a subsequent subdivision.

Any open space park or playground shall be provided with appropriate frontage on a street, and pedestrian ways will normally be required to provide access from each of the surrounding streets, if any, on which the open space, park or playgrounds may be required to have maintenance provided for by covenants and agreements acceptable to the Board, until public acquisition is accomplished by the community.

## V.I. Sewerage

### 1. Sanitary Sewers

- a. These shall include a capped watertight lateral to an appropriate location at each lot installed by the developer.

- b. Use of private wells and septic disposal systems in the same development is not permitted.
- c. Horizontal or vertical curvature of sanitary sewers is not permitted.
- d. Main sewer lines shall be minimum size of eight (8) inch inside diameter (ID). Laterals to multi-unit dwellings shall be a minimum of six (6) inch ID. Laterals to a single family dwelling shall be a minimum of four (4) inch ID. Flow velocities shall be between 2.5 and 10 feet per second.
- e. Maximum distance between man-holes shall be three hundred (300) feet.
- f. Minimum cover over pipe shall be:
  - (1) 48" under paving
  - (2) 36" under areas of zero live load
- g. Minimum horizontal distance between a sanitary sewer and a parallel water main within subdivision streets shall be eight (8) feet.
- h. Connection of footing drains, or roof drains, or storm drains, to a sanitary sewer is prohibited.
- i. Man-hole covers in flood prone areas shall be of water-tight design.

## 2. Storm Sewers

- a. Design storm intensity for surface runoff shall be four (4) inches per hour.
- b. Minimum size of pipe for surface runoff shall be ten (10) inches ID. Footing drain and subdrain connection pipe size shall be a minimum of six (6) inches ID.
- c. Connection of footing drain, roof drains, or storm drains to a sanitary sewer is prohibited.
- d. Maximum distance between man-holes shall be 300 feet. Maximum distance for street runoff to travel along a berm or gutter to a catch basin shall be 300 feet. Maximum distance between a catch basin and man-hole shall be 300 feet.
- e. Catch basins will be placed at street intersections to intercept surface runoff. These will be placed to prevent water from crossing the streets.

- f. Proper drainage design including appropriate storm lines and channels to accommodate properties “up stream” and appropriate structures to preclude “downstream” damage to adjacent properties.
- g. Where a portion of a subdivision lies within an aquifer recharge area, storm drainage shall be directed, when appropriate, to retention basins in order to artificially recharge the ground water system.

Y.J. Water Supply

1. Water Lines

- a. Minimum cover over pipe mains and laterals to buildings shall be five (5) feet.
- b. Mains will be no closer to the face of catch basins or man-holes than three (3) feet.
- c. Main Line Gate Valves shall be located no more than 1200 feet apart. These valves will also be located at intersecting lines of the system to isolate branch lines.

2. Fire Hydrants (See IV.G for review by Fire Chief)

- a. Minimum distance from the buildings shall be forty (40) feet.
- b. Maximum distance between hydrants shall be 800 feet, measured along the access route.
- c. Minimum size of hydrant branch is six (6) inches ID.
- d. Minimum test pressure is 150 p.s.i., or 150% of normal operating pressure—whichever is less.
- e. Maximum distance from any structure to a hydrant shall be 500 feet measured along the street.